

## **ABSTRACT**

This invention provides methods for improved diagnosis of medically relevant conditions by solution based biochemical testing procedures performed in solutions of test samples. The invention provides a method to substitute the cell based morphological information contained within the cytological and/or histological data of the test sample by molecular information obtainable from the solution, wherein the original test sample is dissolved and thus enables for accurate and reproducible assessment of medically relevant diagnosis from dissolved test samples. The method according to the invention comprises the steps of determining the levels of one or more disease markers associated with the condition to be diagnosed, determining the level of one or more normalization markers suitable to substitute the information related to morphological aspects of the sample, comparing and/or combining the data of the disease and normalization markers, and assessing diagnosis of a medically relevant condition.